

Abstract

5 A spoolable composite member having a sensor and an energy conductor
embedded in the composite member. The spoolable composite member is capable of
being spooled onto a reel for storage and for use in oil field applications. The
spoolable tube exhibits unique anisotropic characteristics that provide improved burst
and collapse pressures, increased tensile strength, compression strength, and load
carrying capacity, while still remaining sufficiently bendable to be spooled onto a reel
10 in an open bore configuration. The spoolable composite tube can include an inner
protective layer, an inner pressure barrier layer, an interface layer, fiber composite
layers, an outer pressure barrier layer, and an outer protective layer.

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